Sandy Hook
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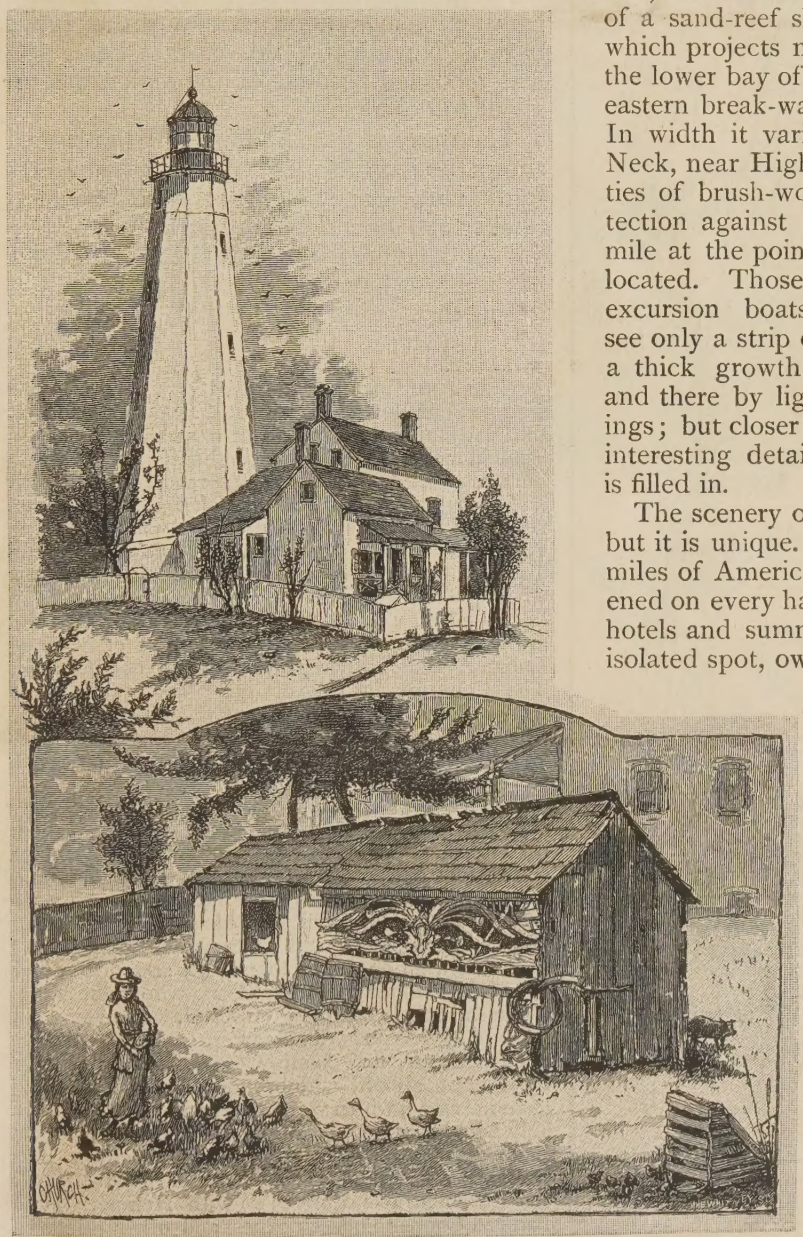
SANDY HOOK.

EVERY American knows Sandy Hook by name, and to the voyager from Europe it is the extended right arm, lamp in hand, which offers first greeting to the land of promise. Of itself, it is not particularly inviting. It consists of a long, low, sandy peninsula, of drift formation, the continuation of a sand-reef skirting the Jersey coast, which projects northward five miles into the lower bay of New York, and forms the eastern break-water of Sandy Hook Bay. In width it varies from fifty yards at the Neck, near Highlands Bridge, where jetties of brush-wood form but a frail protection against easterly storms, to a full mile at the point where the main light is located. Those who look upon it from excursion boats or incoming steamers see only a strip of white sand-beach and a thick growth of cedars, broken here and there by light-houses and low buildings; but closer inspection discloses many interesting details by which this outline is filled in.



MAIN LIGHT, SANDY HOOK, AND KEEPERS' HEN-COOP.

The scenery of the Hook is not varied, but it is unique. Situated within twenty miles of America's metropolis, and threatened on every hand by advancing lines of hotels and summer boarding-houses, this isolated spot, owned and set apart by the government for certain special purposes, has resisted every attempted inroad of civilization, and in many places retains the same wildness that it had when its Indian possessors gazed upon their first pale-faced visitors.

A first glimpse of Sandy Hook, discerned dimly upon the horizon of American history, is found in the diary of Robert Juet, of Limehouse, the companion of Henry Hudson during his third

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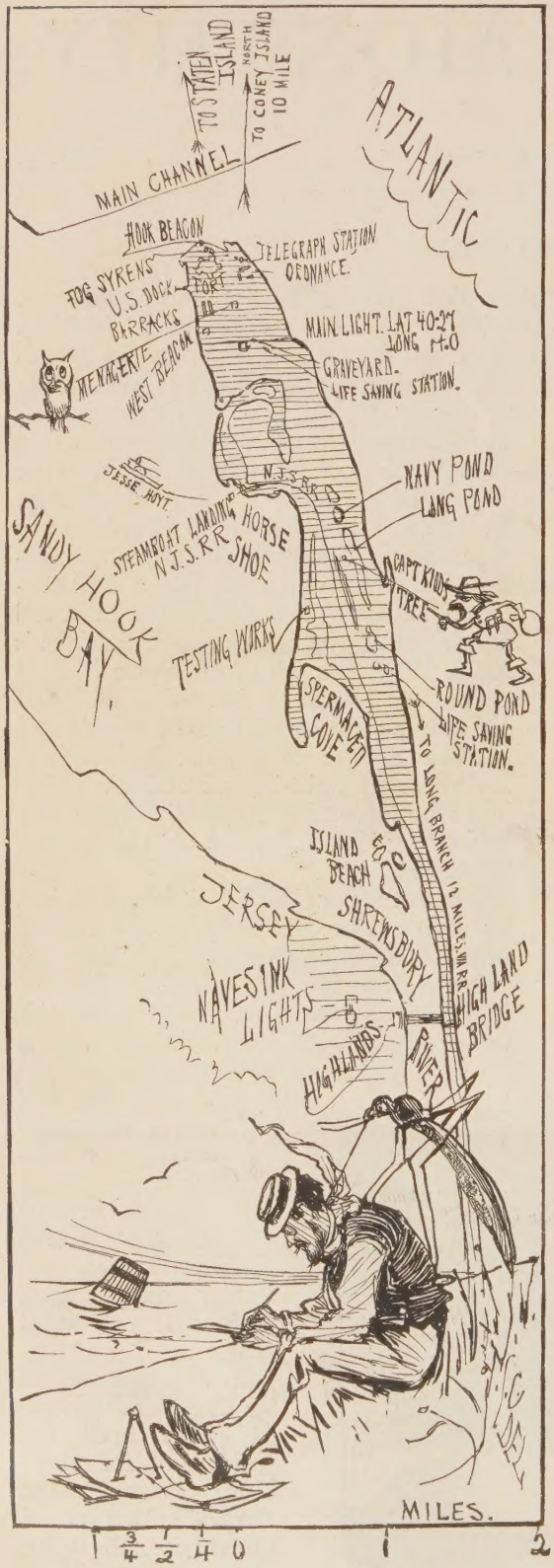


MAP OF SANDY HOOK.

voyage. The name of the "Ancient Man" Juet is rendered infamous by his participation in the mutiny that occurred on the following voyage, which resulted in the great navigator being left, with eight sick companions, in a shallop, to perish miserably in a wintry sea; but Juet showed commendable zeal in keeping a journal, and he has given to posterity a circumstantial and graphic account of the first explorations in this part of the New World which is of inestimable historical value. His journal, first made public in 1625 by Purchase, in "His Pilgrimes," is frequently quoted from; but, lest the reader be unacquainted with it, we reprint below that portion describing his impressions upon entering the lower bay of New York, this extract being the first recorded account of the region we are about to describe.

The diary is dated 1609, and the record shows the *Half Moon* to have been off Hereford Inlet, Cape May, at noon of September 1st, bound north-north-west with a fair wind, favored by which she hove in sight of the lower bay on the afternoon of the following day.

"*The Fourth* (of September, 1609). * * * So we trimmed our Boate and rode still all day. At night the wind blew hard at the North-west, and our Anchor came home, and wee droue on shoare, but tooke no hurt, thanked bee God, for the ground is soft sand and Oze [probably Sandy Hook]. This day the people of the Country came aboord of vs, seeming very glad of our comming, and brought greene Tobacco, and gave vs of it for Kniues and Beads. They goe in Deere skins loose, well dressed. They haue yellow Copper. They desire Cloathes, and are very ciuill. They haue great store of Maiz or Indian Wheate, whereof they make good Bread. The Countrey is full of great and tall Oakes. [There are no oaks on Coney Island, while these are abundant on the Jersey shore, where there were also two important Indian encampments, just south of the mouth of the Raritan River.]

"*The Fifth.*—In the morning as soone as the day was light, the wind ceased and the Flood came. So we heaued off our ship againe into fiue fathoms water, and sent our Boate to sound the Bay, and we found that there was three fathoms hard by the Souther shoare. [Admitting this to refer to Raritan Bay, all the subsequent statements seem clear.] Our men went on Land there, and saw great store of Men, Women and Children, who gaue them Tobacco at their comming on Land. So they went vp into the Woods, and saw great store of very goodly Oakes, and some Currants. For one of them came aboord and brought some dryed, and gaue me some, which were sweet and good. [Probably huckleberries.] This day many of the people came aboard, some in Mantles of Feathers, and some in Skinnes of diuers sorts of good Furres. Some women also came to vs with Hempe. They had red Copper Tobacco pipes, and other things of Copper they did weare about their neckes. At

night they went on Land againe, so wee rode very quiet, but durst not trust them.

"*The Sixth.*—In the morning was faire weather, and our Master sent Iohn Colman, with foure other men in our Boate ouer to the North-side, to sound the other Riuer, being foure leagues from vs. [This undoubtedly refers to the Narrows, and the Raritan would be distant about the space named.] They found by the way shoald water two fathoms; but at the North of the Riuer eighteen, and twentie fathoms, and very good riding for Ships; and a narrow riuer to the Westward betweene two Ilands [unquestionably Kill von Kull]. The Lands they told us were as pleasant with Grasse and Flowers, and goodly Trees, as euer they had seene, and very sweet smells came from them. So they went in two leagues and saw an open sea [unquestionably Newark Bay], and returned; and as they came backe, they were set vpon by two Canoes, the one hauing twelue, the other fourteene men. The night came on and it began to rayne, so that their Match went out; and they had one man slaine in the fight, which was an English man, named Iohn Colman, with an arrow shot into his throat, and two more hurt. [From this unhappy circumstance, Sandy Hook gained its early name of Colman's Point.] It grew so darke that they could not find the ship that night, but labored too and fro on their Oares. They had so great streame, that their grapnell would not hold them."

ALONG THE BEACH.

History next alludes to Sandy Hook in connection with Richard Hartshorne, an English Quaker, who came to America in 1669 and took up his abode on the Navesink Hills, not far from the Indian encampments. He soon afterward purchased from them a considerable tract of land, including all of Sandy Hook and a portion of the hill-side where the town of Highlands is now located; the latter tract has remained in possession of his descendants ever since. On August 8th, 1678, a second agreement was entered into between Hartshorne and Chiefs Vowavapon and Tocus, wherein, by the additional payment of thirteen shillings by Hartshorne, the Indians relinquished all right to fish, hunt, or gather beach-plums on the territory in question. The Indians appear to have kept faith with this agreement, for we find no record of any further trouble with them.

In 1679–80, Andros suggested to Carteret, governor of East Jersey, the advisability of erecting beacons or "sea-marks for shipping" upon Sandy Hook,—called by him "Sandy Point,"—and advised the purchase of land from Richard Hartshorne for this purpose. This seasonable advice was not, however, acted upon until nearly a century later, and the delay proved expensive, for when the project was revived in 1761, by the merchants of New York, the sum of £750 was demanded by Robert and Isick Hartshorne for the tract of four acres called for, and the soil being about as arid and profitless as possible, the

BACK FROM THE BAY.

investigating committee very naturally characterized this as "unreasonable." It was, however, decided to make the purchase, and on May 8th, 1761, the Assembly of New York authorized a lottery, not to exceed £3,000, for the purpose of raising sufficient money to pay for the land and to erect a proper beacon. A committee of four New York merchants, Messrs. Cruger, Livingston, Lispenard and Bayard, was appointed to superintend this lottery; and twelve months later they reported that £2,666 15s. 6d. had thus been raised. The Hartshorne deed transferring the "light-house tract" of four acres to the New York representatives is dated May 10th, 1762, and accompanying it is a map of the locality, particularly interesting from the fact that it indicates the original location of the light-house, eight chains and fifty links, or a little over 500 feet from high-water mark north. By this purchase a portion of Sandy Hook was annexed to New York, and it remained in her possession until relinquished to the general government, which afterward purchased from the Hartshorne family all the remainder of the Hook as far south as the mouth of Youngs Creek, the second and third deeds of sale bearing the dates, February 26, 1806, and June 17, 1817. The amount raised by the first lottery proving insufficient, in December, 1762, a second £3,000 lottery was authorized by the New York Assembly for the Sandy Hook fund, which was drawn on June 13th in the following year; and in 1764, the first light-house was completed and put in use. To assist in defraying the cost of maintaining it, a duty of threepence a ton was laid on all ships entering the port, and some idea of the extent of the commerce of those days may be gathered from the fact that this duty realized £487 6s. 9d. during the first twelve months. The "New York Maga-

THE PLUM-GATHERER.

zine," dated August, 1790, contains an engraving of this first light-house, identical in appearance with the present Main Light, together with a full description of it, wherein we learn that it was built of stone, and "measured from the surface of the ground to the top of the lanthorn, 106 feet." By act of George the Third, dated May 22d, 1762, it was provided that trespasses on Sandy Hook should be actionable in the New York courts. The original of this act is on file in the engineer's office in Washington.

We find no record of any further occurrence of note until the opening of the Revolution, when we learn, from the "Journal of the Provincial Congress," that on March 4th, 1776, the New York Congress resolved upon the destruction of this beacon, the British fleet being daily expected; and two days later instructions were issued to Major Malcom to execute the order, and to be careful to employ secrecy and to save the glass and oil if possible. Fortunately for New York commerce, the major proved tender-hearted; we find no evidence that he destroyed the walls, and the following memorandum from Colonel George Taylor, dated Middletown, March 12th, 1776, enumerates the further salvage: "Received from Wm. Malcom, eight copper lamps, two tackle falls and blocks, and three casks, and a part of a cask of oil, being articles brought from the light-house on Sandy Hook." The light next appears in prominence in the little-known, but invaluable, "Chart of the Bar of Sandy Hook, and Entrance of Hudson's River," made from the surveys of Lieutenant Hills, of the 23d regiment, and published in London, Jan. 1, 1784. This chart we shall frequently refer to further on.

Sandy Hook seems never to have fully determined whether to be a peninsula or an island. It figures in both capacities in the various maps and charts preserved by the New York Historical Society. The oldest of these is a fac-simile of a chart dislodged not many years ago from the Royal

OUR NATURALIST.

Archives at the Hague, which was presented to the States-General on Aug. 18, 1616; in this, Sandy Hook is called "Sandpunt;" the Highlands of Navesink, "De Rondebergh;" Raritan Bay, "Sandbay;" and two settlements of the "Aqvamachvke" [Hackensack?] Indians are indicated, one at the mouth of Raritan River, and the other a few miles south of that point. "Sandpunt" is here a peninsula as at present, but shorter and broader. The rare old Tiddeman map, printed in London about 1719, and found in 1804 by William De Peyster among his grandfather's papers, also represents it as a peninsula. But when General Howe, in 1778, retreated from the battle of Monmouth by the Navesink road and embarked at the Hook, it is clearly stated that he built a temporary bridge to "Sandy Hook *Island*," a statement that is confirmed by the Lieutenant Hills chart, 1784, where it is shown cut off from the mainland by Shrewsbury Inlet. In 1800 it seems to have been connected again with the mainland, but just previous to 1810 it is again shown as an island, and still again in 1830. It has also changed materially from time to time in its outlines. It is of drift formation, consisting of oblique layers of sand, which have without doubt been thousands of years in accumulating; the lower Hook, just above Spermaceti Cove, was probably once its extremity. Within the memory of those now living it has increased in length nearly half a mile. The Main Light, which in 1762 was located 500 feet from the extreme northern point, is now seven-eighths of a mile distant, which shows that the Hook has lengthened, within the period named, nearly 4,000 feet, or be-

tween thirty-five and forty feet a year; but how soon the sea may again claim its own, no one can affirm. The rough map given on page 642 shows the present outlines of the Hook, and suggests the situation of the points mentioned below.

FISH-POUND.

Turning our backs upon the steamboat pier of the New Jersey Southern Railway, which tips the point above "Horse-shoe Cove," let us now stroll leisurely southward along the shore of the "Horse-shoe," toward the twin lights of the Navesink beacon with their connecting embattled building, rising from the Navesink Highlands before us, somber and picturesque as a castle of the Rhine. To our right is Sandy Hook Bay, an arm of the lower bay of New York, and a well sheltered harbor, where, when the weather is foggy or the winds contrary, large numbers of fishing boats and coasters lie anchored, counted at times by hundreds. To our left rises a steep sand-bank, from five to fifteen feet high, crowned with cedars, which crowd close to the brink, where the winds sift the sand from their twisted roots until they pitch headlong down upon the beach, dragging their comrades with them.

The first object of special interest that we approach is a wrecked canal-boat, standing erect in the sand, broadside on, twenty feet above high-water mark. A stranger might pass this many times and see nothing more than a wrecked canal-boat; but one summer day as we strolled by, a small window stood open, and a child was looking out of it. Curiosity led us to walk around to the landward side of the wreck, where we found hen-coops, a cow-shed, a pile of drift-wood, and a collection of fishing gear, including nets, eel-pots, and clam-rakes. "Surely, some one must live here," we said, and knocked at a door. A pleasant-faced German woman opened it, and after some preliminaries we asked permission to go inside, which was granted. Here was a furnished dwelling, with four rooms, and occupied by two families. By a few modifications, including the addition of roof, windows, doors and a smoke-pipe, the father had made the boat habitable; and a woman's hands had done the rest. The outer door leads into the kitchen, furnished with a stove, a table and chairs; to the right of this is a store-room; and to the left is the cabin, with bunks against the stern, now converted into a bed-chamber. There are six small windows in this room; its walls are decorated with prints, a clock, and a shelf holding the precious four-volume library: a Bible and a geography, both in German, an English prayer-book, and "Gospel Hymns." The furniture is simple, and most of it was made by the father. In one of the bunks sleep three boys who have never visited a city. Here, one day last winter, a fourth brother was born, and when we went to call upon him in the spring, a new family of ducklings was sheltered by the stove, and the cat presented herself at the window, offering

OLD LANDMARKS.

A "RUDDER GRANGE" AT SANDY HOOK.

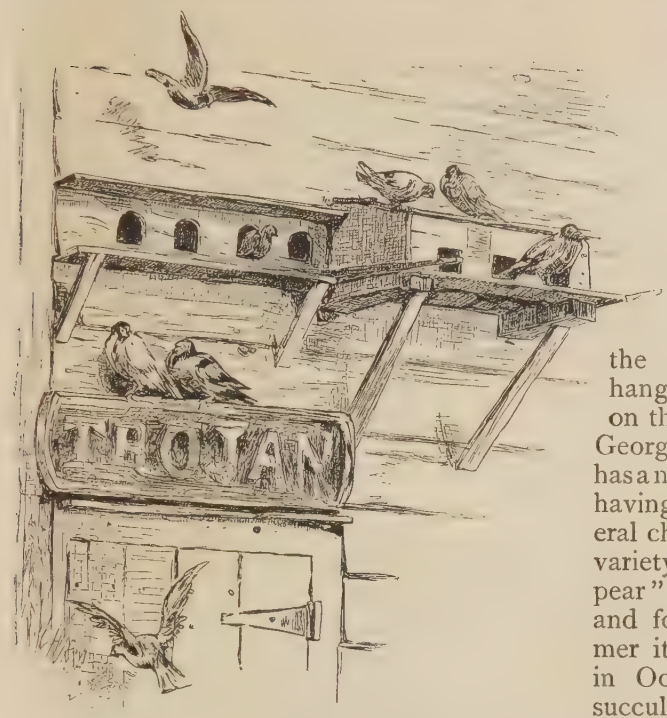
one of her kittens for inspection. Within, everything is comfortable and clean, and without there is an evident air of thrift. The boat itself still cherishes memories of its youthful days and clings to the mementoes of its former life, as if, like a careful housewife, it anticipated that they might become of use again. The oakum still sticks to its joints, the rudder-post remains firm, and on the stern you may decipher from the faded, weatherworn lettering, the matter-of-fact name by which it was known long ago, when it drifted leisurely up and down the Delaware and Hudson Canal.

Near by is a marshy inlet where the fiddler crabs have formed a colony. They are active little bodies, dragging their uncomfortable fiddles about with them in a most cheery manner. The spider-crabs and horse-shoes occasionally pay them visits; and who shall tell what antics are cut up, on midsummer nights, during these cousinly reunions?

Accepting the offer of one of the boys from the canal-boat, we are rowed by him down the shore as far as the Boiler Testing Grounds, used for some years by the government for testing the relative strength of different grades of iron used in the construction of boilers. The appropriation having failed last year, the experiments were discontinued, and the grounds appear to be abandoned.

A short distance south of the Boiler Grounds is a second inlet, similar in shape to the "Horse-shoe," known as "Spermaceti Cove," so named, tradition tells us, from a whale of that class having once been stranded here. We find no record of the occurrence, but the fact is not improbable, for in the last century whales were frequently taken along this coast.

Leaving the shore, we now strike eastward into a picturesque growth of cedars. To the trunk of one of these is nailed a sign-board with the governmental order: "No Visitors Allowed." A fish-hawk has built a nest on the tip-top of this tree,—the biggest kind of a nest, a landmark for miles around, and here his mate has raised many a brood in security. Some of the cedars found at this point have trunks as large round as a man's body, and as this



THE DOVE-COTE.

tree is of exceedingly slow growth, they help to prove the antiquity of this portion of the Hook. It has been decided by competent authority that some of these trees must be between 300 and 500 years old. Farther on we pass through several burnt tracts, where brush fires have crept along the undergrowth, killing the trees, but leaving them with every branch and twig intact, to drop their bark in shreds, and to bleach in the rain and sunshine. One of these is called "Captain Kidd's tree." It is the tallest in this region, and is a pine,—not a cedar,—the only one that we have noticed on the Hook. To boatmen approaching from the south-east, this tree is said to present the appearance of a full-rigged ship, and this suggested resemblance is thought to have given rise to the superstition that treasures lay buried beneath it, —a superstition strengthened by Cooper's highly colored and fantastic novel, "The Water Witch," the interest of the plot of which largely consists in the references to Sandy Hook and vicinity. Trenches surround the Kidd tree, and the sand has been well sifted from its roots. In some places the cedars are covered by lichens and hanging moss, vividly suggesting the glades on the Sea Islands off South Carolina and Georgia. Indeed, Sandy Hook as a whole has a noteworthy resemblance to those islands, having the same formation and the same general character of soil and vegetation. That variety of cactus known as the "prickly pear" is found in every part of the Hook, and forms a characteristic feature; in summer it bears bright yellow blossoms, which in October are followed by a red fruit, succulent and pleasant to the taste.

The fish-hawks are common here, and now and then they show an undue appreciation of the benefits of society by confiscating somebody's fat chicken; and the fact is well authenticated that on one occasion the vest of a workman was carried away by one of these pirates of the air. The owner returned just in time to see his property go sailing away in the clutches of the hawk. With celerity and skill equal to the emergency, he brought both down by a well-directed stone. His son afterward had the curiosity to inspect the nest of this bird, which was poised like a bundle of brushwood on the top of a dead cedar, and there he found one of his father's hammers and a motley collection of

A SEA-SIDE TURN-OUT.

other articles not commonly thought needful to the household economy of hawks.

The study of insect life was diligently pursued by a lady friend, a naturalist, who accompanied us on one of our excursions. To her eyes Sandy Hook was an insect paradise, and we must admit this to be quite true during mosquito season, when it is purgatory to everybody else. Truth compels us also to admit that sand-adders are quite partial to the Hook, and that during the past few years they have increased in proportion to the decrease of the hogs, whose fondness for them proves more fatal than man's hatred. Black snakes are also occasionally seen, much to the terror of the cattle.

Leaving the cedar grove, we now cross the railway track, and suddenly the character of the vegetation changes. Desolate sand-dunes rise before us, blown by the wind and unclothed save by a scanty growth of sand-moss and beach-plums; and, mounting one of the higher dunes, we see the vast Atlantic, streaked by black and purple, or by long lines of sunshine, and specked by white-caps.

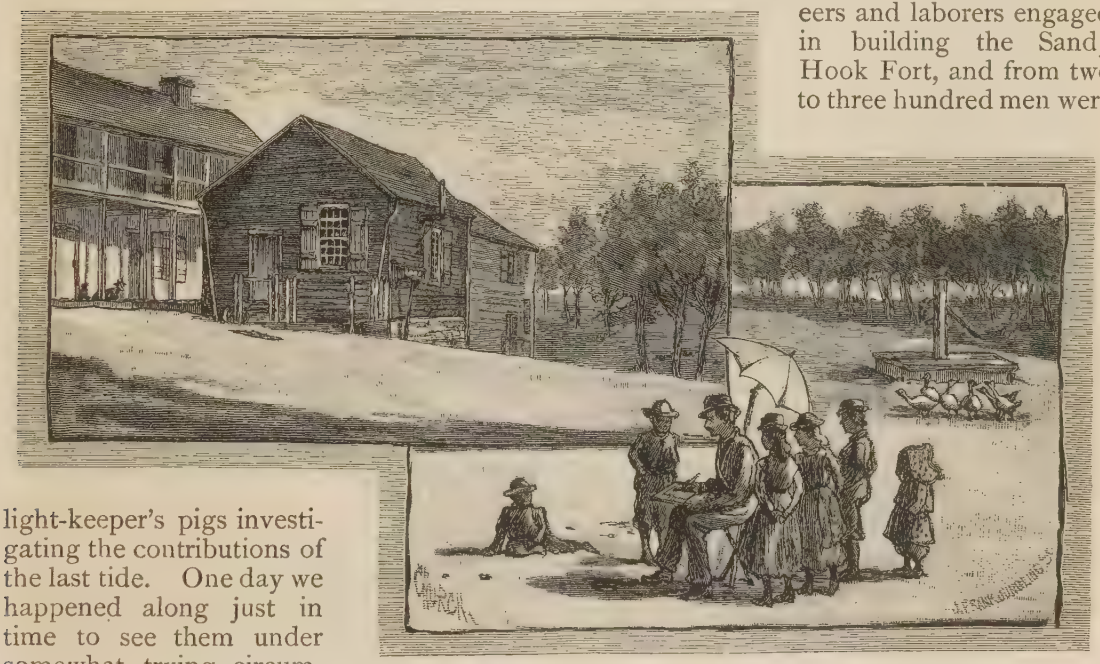
We pass the little red-painted house used as a life-saving station, which is provided with a complete outfit. Seven men are stationed here, and from April 15 to September 15 two patrols walk the shore throughout the night. Of late they have seldom had occasion to lend a helping hand, since most of the wrecks have occurred lower down the reef, at Long Branch, Squan, and the still more fatal Barnegat. A mile and a half east of this point is the *Scotland* light-ship, and six miles farther east the Sandy Hook light-ship—red, with two red fixed lights forty-five feet above the sea-level and provided with an automatic fog-horn, whose hoarse voice is familiar to all transatlantic travelers who have had the unhappiness to approach the port of New York during foggy weather.

A two-mile walk northward against the wind brings us to the main light, located half-way between the two shores, or about half a mile from either. This is the light-house that was completed in 1764, and its stone walls are, without doubt, the same that were then erected. Various improvements have from time to time been introduced, including a brick lining, iron stairs in place of wood, and a French lens in place of the copper lamps that Major Malcom carried away; but its outward appearance has changed very little. During the Revolution it played an important rôle, being fortified and occupied for a time by the British and refugees. Previous to recent repairs the marks of cannon-shot were plainly visible on its walls. When introducing the brick lining some years ago, the cellar was excavated, and fourteen feet below the flooring the workmen came upon a ponderous iron door, upon removing which they penetrated into a small room, where a fire-place was found, with ashes still upon it. What this prison-like chamber was intended for is by no means apparent. The lens is ninety feet from the ground. Close beside the tower are the keeper's house and barn, surrounded by shade trees and a flowering garden—an oasis in the midst of sand-hills. Here almost every object offers a suggestion of storm and disaster. That arm-chair on the piazza drifted ashore from the brig *Swett* (Captain George Pendleton), which foundered off the east shore during the winter of 1868. Here is a remnant from the English ship *Clyde*, and there one from the brig *Prosper*, which, during a terrific gale, drove on the bar near the west beacon. Here is a figure-head that once danced over the waves defiant of storms, now warped and weather-stained; and on the side of the barn, just beneath the dove-cote, is a stern-board bearing the name *Trojan*, close to which nestle the cooing doves. The cow-sheds are built of wreck-wood, and one side of the hen-coop is inclosed by a panel from a French brig, elaborately carved with sprays of foliage, which, when it was disentangled in fragments from the sea-wrack upon the beach, was gorgeous with gilding, but which, with the exception of a bright speck here and there, is now bare and brown. Keeper Patterson has been in charge of this light for eighteen years, during which period more than fifty wrecks have occurred within sight of his lantern. When milking-time comes, the keeper's cows are followed to the barn-yard by one of the curiosities of the Hook—an aged goat, of unknown species, the survivor of a large flock descended from a pair left here by pilots many years ago.

The sand-hills that surround the Main Light are covered with a thick growth of the beach-plums so prized by the Indians; these are low shrubs of the pear family, which in May are snowed over with drifts of white blossoms, and in early September droop under the weight of their purplish fruit. The plums are about the size of cherries, having an agreeable flavor, not unlike the cultivated varieties, but with more acidity and a slightly bitter taste. When

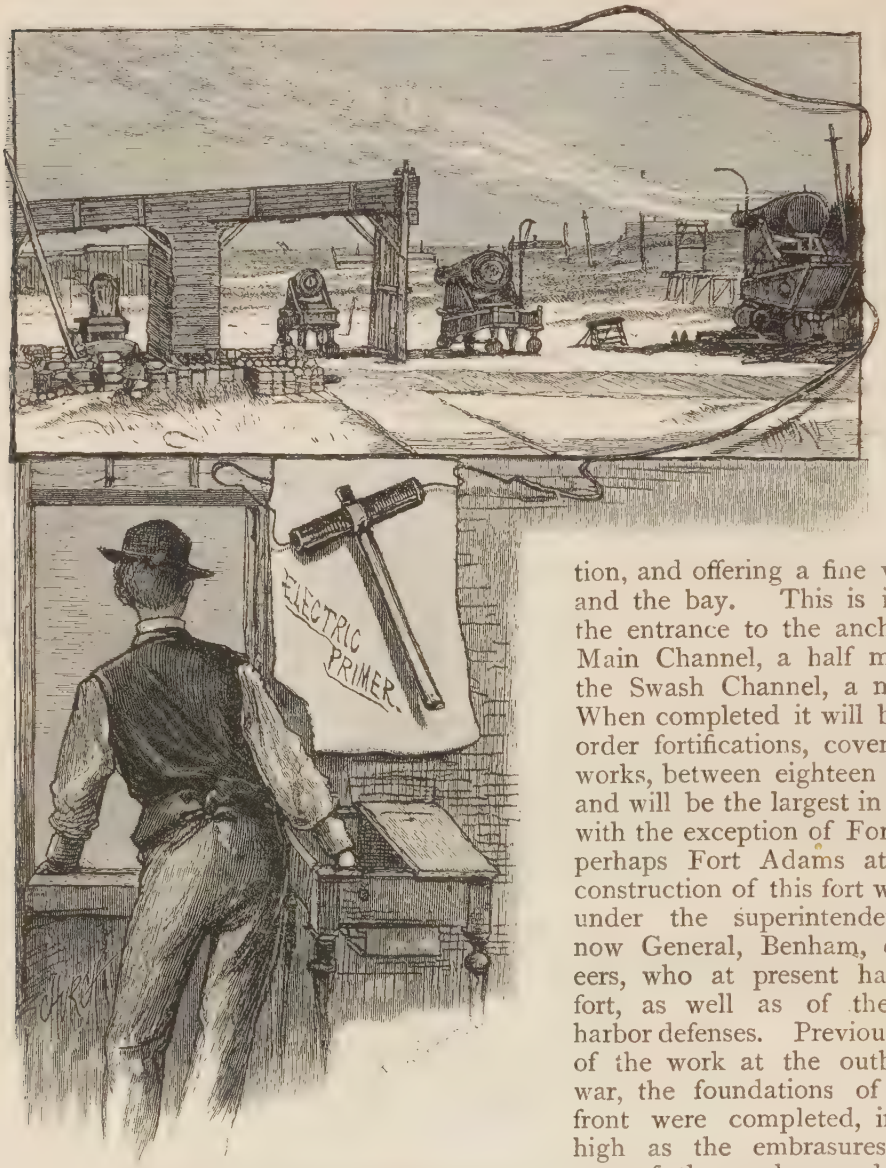
these are ripe the region is frequented by many women and children, who come, often from long distances, to gather them for preserves and marketing. Near by is "Ocean Cemetery," a melancholy half-acre, shadowed by cedars, where, among the sand-grass and brambles, appear a few crosses and wooden head-boards; most of those buried here are shipwrecked mariners, unknown by name, who have been picked up on the adjacent beaches.

The boom of heavy guns grows louder,—we have now approached so near the point and the ordnance department that the east shore is no longer a safe resort. We will proceed the rest of the way by the west beach, where we shall probably find the light-keeper's pigs investigating the contributions of the last tide. One day we happened along just in time to see them under somewhat trying circumstances. A party of gentlemen from New York had just come in from blue-fishing, and landed here for a ramble. After laboriously cleaning their fish, they laid them among the sand-reeds and wandered up toward the light, picking beach-plums as they went. Upon returning they perceived with dismay this company of pigs banqueting upon the blue-fish. The pigs enjoyed the joke, and although they made their next half mile in quicker time, and with less military precision than customary, we met them afterward cheerfully looking for more.



THE OLD SCHOOL-HOUSE.

Before us are the barracks,—one of the most picturesque features of Sandy Hook. These consist of two long lines of two-story houses, separated by a sandy road-way a hundred feet wide, in the midst of which stand the town pump and the school-house. The latter contains one small room, where a dozen scholars are accustomed to gather daily. It is here that the three boys from the canal-boat come, leaving the prints of six small feet upon the wet beach. Sometimes the tide crosses their path at the inlet, and they are forced to go around through the cedar grove; or if it is not too deep for wading, the elder boy tucks up his trowsers (or removes them, as the case may demand) and carries the others across on his back. To the outside of the school-house is attached a covered shelf containing six buckets of water,—this is Sandy Hook's fire department. The barracks were built in 1856-7, for the engineers and laborers engaged in building the Sandy Hook Fort, and from two to three hundred men were then quartered here; this number increased to five hundred during the war, when several companies of recruits were also stationed here for drill, etc. Soon after the close of the war work on the fort was abandoned, from lack of appropriations, and most of the buildings are now in a dilapidated condition. Those that are still habitable are occupied by government employés, connected with the ordnance department, the life-saving stations, and the light-house and signal service, or by Western Union Telegraph operators. These men with their families number about fifty souls, and compose somewhat more than half of the population of the Hook, the others being mainly steamboat and railway men, living near the



THE ELECTRIC PRIMER, SANDY HOOK.

"Horse-shoe." These residents are jocosely called "Sand-hillers," and a strangely isolated community they make up, with no post-office, no church, no physician, no policeman, no fireman, and only one store, —that a floating one, moored to the steamboat dock; but as the world goes these people are uncommonly contented, being healthy, well fed, with work to do and regular pay for doing it, and freedom from the interruptions of landlord, tax gatherer, commissioner of jurors, or the insurance agent. Just to the east of the barracks is the officers' quarters, soon to be transferred to the new brick building near by; and in the garden is the so-called "officers' menagerie," containing an eagle, a crow, and an owl,— the remnant of a once happy and much more numerous family, which, after the adoption of the owl, grew beautifully less with each succeeding night.

Having passed the barracks, we find the scenes more conventional. Before us stands the fort, occupying a commanding position, and offering a fine view of the ocean and the bay. This is intended to guard the entrance to the anchorage bay by the Main Channel, a half mile distant, or by the Swash Channel, a mile further north. When completed it will be one of our first-order fortifications, covering, with its outworks, between eighteen and twenty acres, and will be the largest in the United States with the exception of Fortress Monroe, and perhaps Fort Adams at Newport. The construction of this fort was begun in 1858 under the superintendence of Captain, now General, Benham, colonel of engineers, who at present has charge of this fort, as well as of the other principal harbor defenses. Previous to the suspension of the work at the outbreak of the last war, the foundations of the main north front were completed, in some parts, as high as the embrasures. The principal part of the work was done subsequently, under the superintendence of the late General Delafield, chief of engineers, by whom the arches for the main battery, or lower tier of guns, were built. The completion of the fort has since been delayed by the revolution in modern artillery, which, it is thought, may demand changes in its construction and outfit. It is now popularly known as "the Sandy Hook fort," but it has never been duly christened; the name of "Fort Clinton" has been proposed, and seems most likely to be adopted. Its foundation is of drift sand, made within the past century, but it seems firm, and the lines of masonry are as true as when first laid. Near by are several objects of interest, including the machine shop; the "North Light," painted red, which recently took the

place of the old "dumb beacon," so long a landmark; the two "syrens," or steam fog-whistles, which, when the weather is thick, raise a terrific alarum by their six-second blasts at the interval of every forty seconds; and the head-quarters of the ordnance department, very completely equipped, where the government test new guns and other ordnance material introduced from time to time. The guns are discharged by electricity from the office, two hundred and fifty feet distant. The largest of the practice guns is a twelve-inch rifle, requiring a charge of 115 pounds of powder, and carrying a 700-pound shot.

Lastly, we come to the tower of the Western Union Telegraph Company, seventy feet high, where a lookout now pushes his telescope through one of the port-holes, and slowly scans the horizon. The little chamber in which he stands is ten feet square, furnished with a desk, chairs, lights, spy-glasses, telegraph instruments, and a stove that in winter is kept red-hot, for this is a bleak and windy perch. This station is directly connected with the general office of the company in New York, and also with the Beaver street office of the Maritime Association. It is the business of the lookout to report the approach of incoming ships and steamers. In the day-time he recognizes them by flags displayed at the mizzen mast-head, the topmost, or ensign, to reveal the nationality, while four smaller ones beneath this indicate certain letters, and as soon as he distinguishes these, he seeks the corresponding combination in the "International Code of Signals" at his elbow, and in this book learns name, horse-power and tonnage. For example, Captain Farrell has just sighted an incoming steamer; let us see if we can make out what she is. At the mast-head floats the British ensign. Below this is a square flag, yellow and blue, divided vertically,—that means "K"; second flag square, with blue border, then white, and centered by red,—that means "W"; third, square, crossed diagonally by white lines,—that means "M"; fourth, blue, with white square in center,—"K W M P,"—it is the steamer *Adriatic*, of the White Star Line. At night ships are not reported, but the signals of steamers consist of lights of various colors; thus, the *Adriatic* would be recognized by two green lights burned on deck, aft, twenty feet apart; or a Cunarder by two Roman candles, each throwing six blue balls about 150 feet, with a blue light over the stern at the same time. The name of the line is thus clearly indicated, and it is easy to determine the individual steamer by knowing which one is due. The importance of this telegraph station has somewhat decreased since the ocean cable came into use. Moreover, when the cable came, Dickie's work was done. Dickie was one of the half dozen carrier pigeons formerly attached to this station. When a transatlantic steamer hove in sight, no matter how rough the sea or stormy the sky, Captain Farrell took Dickie with him and rowed out to receive the latest European news. The message, written on tissue paper, was attached to the bird's leg, and with swift flight he returned to his cote upon the tower, where the assistant operator was awaiting him. But Dickie was sometimes obstinate, recognizing his importance very exasperatingly by evading the waiting hand and walking around the tower just out of reach. Now he drew near and looked propitious; "Come, Dickie, come, that's a dear," whispered the telegraph man coaxingly. Now Dickie cooed, as if to say, "What's the hurry! what's the hurry!" and continued to sidle away to the very verge of the roof. And so it sometimes happened that all America, yearning for news from the Old World, waited upon the caprices of Dickie, the carrier pigeon.

THE UNIVERSITY OF ROME.

PICO DELLA MIRANDOLA. (AFTER ORIGINAL IN THE UFIZZI GALLERY, FLORENCE; PAINTER UNKNOWN.)

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Mr. Wm. T. Davis,
146 Stuyvesant Place,
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